



## MA DEPARTMENT OF ENVIRONMENTAL PROTECTION - DRINKING WATER PROGRAM

# MODEL GROUNDWATER PROTECTION DISTRICT BYLAW OR ORDINANCE

(revised 2005)

This Model was initially developed in 1991 by an ad-hoc committee comprised of the MA Water Resource Authority, the Metropolitan Area Planning Council, the Water Supply Citizens Advisory Committee, Camp Dresser and McKee Inc., and the Department of Environmental Protection.

The purpose of this Model is to provide communities with an example of a bylaw/ordinance that complies with the requirements of DEP's Wellhead Protection Regulations 310 CMR 22.21(2). This Model does not include a prohibition for floor drains. Wellhead Protection Regulation 310 CMR 22.21(2)(a)(8) requires communities to prohibit floor drains in existing facilities; therefore a floor drain Board of Health Regulation or general bylaw/ordinance must be adopted to satisfy 310 CMR 22.21(2)(a)(8). A Model Floor Drain Board of Health Regulation is available from DEP.

Compliance with DEP's Wellhead Protection Regulations can be achieved by adopting this Model and a non-zoning floor drain control. Compliance may also be achieved by adopting a combination of zoning bylaws/ordinances, general bylaws/ordinances or health regulations that meet the regulatory language of 310 CMR 22.21(2)(a) through 310 CMR 22.21(2)(b). See attached regulations at the end of this Model. For communities seeking to protect their public drinking water supplies strictly through a Board of Health Regulation, a Model Groundwater Protection Board of Health Regulation is available from DEP.

This Model references the Massachusetts General Laws and Code of Massachusetts Regulations as cited in the Wellhead Protection Regulations. DEP has developed a guide for the referenced citations in the Wellhead Protection Regulations. Communities may find this guide useful for implementing the bylaw/ordinance. A copy of this guide may be obtained by contacting the DEP Drinking Water Program.

Prior to adopting this Model, municipalities should compare the language of their existing protection controls (including any non-zoning controls) with the Wellhead Protection Regulations. In many instances only minor amendments to local controls will be needed to meet compliance. Additionally, it is recommended communities consult with their municipal counsel prior to adoption.

### How To Adopt this Model:

1. **Fill** in the underlined blanks with the appropriate information;
2. **Choose** the correct [bracketed term] for your community and remove brackets;
3. **Give** the bylaw/ordinance a Title (omit the term 'Model'); and
4. **Remove** the footnotes. (The footnotes provide additional information and explanation to the drafter of the bylaw/ordinance and are not intended for adoption).

For further information about DEP wellhead protection requirements, contact DEP's Drinking Water Program at 617-292-5770 or visit [www.mass.gov/dep](http://www.mass.gov/dep).

## 1. PURPOSE OF DISTRICT

The purpose of this Groundwater Protection District is to:<sup>1</sup>

- a. promote the health, safety, and general welfare of the community by ensuring an adequate quality and quantity of drinking water for the residents, institutions, and businesses of the [Town/City] of \_\_\_\_\_ ;
- b. preserve and protect existing and potential sources of drinking water supplies;<sup>2</sup>
- c. conserve the natural resources of the [Town/City]; and
- d. prevent temporary and permanent contamination of the environment.

## 2. SCOPE OF AUTHORITY

The Groundwater Protection District is an overlay district superimposed on the zoning districts. This overlay district shall apply to all new construction, reconstruction, or expansion of existing buildings and new or expanded uses. Applicable activities and uses in a portion of one of the underlying zoning districts that fall within the Groundwater Protection District must additionally comply with the requirements of the Groundwater Protection District [Bylaw/Ordinance]. Uses prohibited in the underlying zoning districts shall not be permitted in the Groundwater Protection District.

## 3. DEFINITIONS

*Aquifer:* Geologic formation composed of rock, sand or gravel that contains significant amounts of potentially recoverable water.

*CMR:* Code of Massachusetts Regulations.

*DEP:* Massachusetts Department of Environmental Protection.

*Groundwater Protection District:* Those land area(s) designated on a map adopted pursuant to this [bylaw/ordinance] that provide recharge to an existing or planned public drinking water supply well. The Groundwater Protection District includes all areas designated as a Zone II and approved by the DEP.

*Hazardous Material:* Any substance or mixture of physical, chemical, or infectious characteristics posing a significant, actual, or potential hazard to water supplies or other hazards to human health if such substance or mixture were discharged to land or water. Hazardous materials include, without limitation: synthetic organic chemicals; petroleum products; heavy metals; radioactive or infectious wastes; acids and alkalis; solvents and thinners in quantities greater than normal household use; and all substances defined as hazardous or toxic under M.G.L. c.21C and 21E and 310 CMR 30.00.

*Hazardous Waste:* Any waste defined in the Massachusetts Hazardous Waste Regulations, 310 CMR Section 30.010. This includes, but is not limited to, waste oil, waste solvents, waste oil-based paint and waste pesticides.

*Impervious Surface:* Material or structure on, above, or below the ground that does not allow precipitation or surface water to penetrate directly into the soil.

*Landfill:* A facility established in accordance with a valid site assignment for the purposes of disposing solid waste into or on the land, pursuant to 310 CMR 19.006.

*M.G.L.:* Massachusetts General Law

*Petroleum Product:* Petroleum or petroleum by-product including, but not limited to: fuel oil; gasoline; diesel; kerosene; aviation jet fuel; aviation gasoline; lubricating oils; oily sludge; oil refuse; oil mixed with other wastes; crude oils; or other liquid hydrocarbons regardless of specific gravity. Petroleum product shall not include liquefied petroleum gas including, but not limited to, liquefied natural gas, propane or butane.<sup>3</sup>

*Non-sanitary wastewater:* Wastewater discharges from industrial and commercial facilities containing wastes from any activity other than collection of sanitary sewage including, but not limited to, activities specified in the Standard Industrial Classification (SIC) Codes set forth in 310 CMR 15.004(6).

*Open Dump:* A facility operated or maintained in violation of the Resource Conservation and Recovery Act (42 U.S.C. 4004(a)(b)), or state regulations and criteria for solid waste disposal.

*Potential Drinking Water Sources:* Areas that could provide significant potable water in the future.

*Recharge Areas:* Areas that collect precipitation or surface water and carry it to aquifers. Recharge areas include DEP approved Zone I, Zone II, or Zone III areas.<sup>4</sup>

*Septage:* The liquid, solid, and semi-solid contents of privies, chemical toilets, cesspools, holding tanks, or other sewage waste receptacles. Septage does not include any material that is a hazardous waste as defined by 310 CMR 30.000.

*Sludge:* The solid, semi-solid, and liquid residue that results from a process of wastewater treatment or drinking water treatment. Sludge does not include grit, screening, or grease and oil which are removed at the head-works of a facility

*Treatment Works:* Any and all devices, processes and properties, real or personal, used in the collection, pumping, transmission, storage, treatment, disposal, recycling, reclamation, or reuse of waterborne pollutants, but not including any works receiving a hazardous waste from off the site of the works for the purpose of treatment, storage, or disposal.

*Very Small Quantity Generator:* Any public or private entity, other than residential, which produces less than 27 gallons (100 kilograms) a month of hazardous waste or waste oil, but not including any acutely hazardous waste as defined in 310 CMR 30.136.

*Waste Oil Retention Facility:* A waste oil collection facility for automobile service stations, retail outlets, and marinas which is sheltered and has adequate protection to contain a spill, seepage, or discharge of petroleum waste products in accordance with M.G.L. c.21. s.52A.

*Zone I:* The DEP designated protective radius around a public water system well or well-field.

*Zone II:* The DEP approved area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated as defined in 310 CMR 22.00.

#### **4. ESTABLISHMENT AND DELINEATION OF GROUNDWATER PROTECTION DISTRICT**

4.1 For the purposes of this District, there are hereby established within the [Town/City] of \_\_\_\_\_ certain groundwater protection areas, consisting of aquifers or recharge areas which are delineated on a map. This map is at a scale of 1 inch to \_\_\_\_\_ feet and is entitled 'Groundwater Protection District' [Town/City] of \_\_\_\_\_ dated \_\_\_\_.'<sup>5</sup> This map is hereby made a part of the [Town/City] of \_\_\_\_\_ zoning [bylaw/ordinance] and is on file in the Office of the [Town/City] Clerk.

## **5. DISTRICT BOUNDARY DISPUTES**

5.1. If the location of the District boundary in relation to a particular parcel is in doubt, resolution of boundary disputes shall be through a Special Permit application to the Special Permit Granting Authority (SPGA). Any application for a special permit for this purpose shall be accompanied by adequate documentation.

5.2. The burden of proof shall be upon the owner(s) of the land to demonstrate that the location of the District boundary with respect to a parcel(s) of land is uncertain. At the request of the owner(s), the [Town/City] of \_\_\_\_\_ may engage a professional engineer, hydrologist, geologist, or soil scientist to determine more accurately the boundaries of the District with respect to individual parcels of land, and may charge the owner(s) for the cost of the investigation. Amendments to the Groundwater Protection District require [Town meeting /City Council] approval. <sup>6</sup>

5.3. Where the boundary line of the Groundwater Protection District divides a lot or parcel, the requirements established by this bylaw shall apply [only to the portion of the lot or parcel located within the GWPD/to the entire lot or parcel]. <sup>7</sup>

## **6. PERMITTED USES**

6.1. The following uses are permitted within the Groundwater Protection District, provided that all necessary permits, orders, or approvals required by local, state, or federal law are also obtained:

- a. conservation of soil, water, plants, and wildlife;
- b. outdoor recreation, nature study, boating, fishing, and hunting where otherwise legally permitted;
- c. foot, bicycle and/or horse paths, and bridges;
- d. normal operation and maintenance of existing water bodies and dams, splash boards, and other water control, supply and conservation devices;
- e. maintenance, repair, and enlargement of any existing structure, subject to Section 7 and Section 8 of this bylaw/ordinance;
- f. residential development, subject to Section 7 and Section 8 of this [bylaw/ordinance];
- g. farming, gardening, nursery, conservation, forestry, harvesting, and grazing, subject to Section 7 and Section 8 of this [bylaw/ordinance];
- h. construction, maintenance, repair, and enlargement of drinking water supply related facilities such as, but not limited to, wells, pipelines, aqueducts, and tunnels.

## **7. PROHIBITED USES**

7.1. The following uses are prohibited within the Groundwater Protection District: <sup>8</sup>

- a. landfills and open dumps as defined in 310 CMR 19.006;
- b. ii. automobile graveyards and junkyards, as defined in M.G.L. c.140B, s.1;
- c. landfills receiving only wastewater and/or septage residuals including those approved by the Department pursuant to M.G.L.c. 21 s.26 through s.53; M.G.L.c. 111 s.17; M.G.L. c.83, s.6 and s.7, and regulations promulgated thereunder;

- d. facilities that generate, treat, store, or dispose of hazardous waste that are subject to M.G.L. c.21C and 310 CMR 30.00, except for:<sup>9</sup>
  - 1. very small quantity generators as defined under 310 CMR 30.000;
  - 2. household hazardous waste centers and events under 310 CMR 30.390;
  - 3. waste oil retention facilities required by M.G.L. c. 21, s.52A;
  - 4. water remediation treatment works approved by DEP for the treatment of contaminated waters
- e. petroleum, fuel oil, and heating oil bulk stations and terminals including, but not limited to, those listed under Standard Industrial Classification (SIC) Codes 5983 and 5171, not including liquefied petroleum gas.<sup>3,10</sup>
- f. storage of liquid hazardous materials, as defined in M.G.L.c. 21E, and/or liquid petroleum products unless such storage is:<sup>11</sup>
  - 1. above ground level and on an impervious surface; and
  - 2. either in container(s) OR above ground tank(s) within a building OR outdoors in covered container(s) OR above ground tank(s) in an area that has a containment system designed and operated to hold either; 10% of the total possible storage capacity of all containers OR 110% of the largest container's storage capacity, whichever is greater.
- g. storage of sludge and septage, unless such storage is in compliance with 310 CMR 32.30 and 310 CMR 32.31;<sup>12</sup>
- h. storage of deicing chemicals unless such storage, including loading areas, is within a structure designed to prevent the generation and escape of contaminated runoff or leachate;<sup>13</sup>
- i. storage of animal manure unless covered or contained within a structure designed to prevent the generation and escape of contaminated runoff or leachate;
- j. earth removal, consisting of the removal of soil, loam, sand, gravel, or any other earth material to within 4 feet of historical high groundwater as determined from monitoring wells and historical water table fluctuation data compiled by the United States Geological Survey, except for excavations for building foundations, roads, or utility works;<sup>14</sup>
- k. discharge to the ground of non-sanitary wastewater including industrial and commercial process waste water, except:<sup>15</sup>
  - 1. the replacement or repair of an existing treatment works that will not result in a design capacity greater than the design capacity of the existing treatment works;
  - 2. treatment works approved by the Department designed for the treatment of contaminated ground or surface water and operating in compliance with 314 CMR 5.05(3) or 5.05(13);and
  - 3. publicly owned treatment works.
- l. stockpiling and disposal of snow and ice containing deicing chemicals brought in from outside the district;
- m. storage of commercial fertilizers, as defined in M.G.L. c.128, s.64, unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate.

## **8. USES AND ACTIVITIES REQUIRING A SPECIAL PERMIT**

8.1. The following uses and activities are permitted only upon the issuance of a Special Permit by the Special Permit Granting Authority (SPGA) under such conditions as they may require:<sup>16</sup>

- a. enlargement or alteration of existing uses that do not conform to the Groundwater Protection District;
- b. those activities that involve the handling of toxic or hazardous materials in quantities greater than those associated with normal household use, permitted in the underlying zoning (except as prohibited under Section 7). Such activities shall require a special permit to prevent contamination of groundwater;
- c. any use that will render impervious any lot or parcel more than 15% or 2,500 square feet, whichever is greater. A system for groundwater recharge must be provided which does not degrade groundwater quality. For non-residential uses, recharge shall be by storm water infiltration basins or similar system covered with natural vegetation, and dry wells shall be used only where other methods are infeasible. For all non-residential uses, all such basins and wells shall be preceded by oil, grease, and sediment traps to facilitate removal of contamination. Any and all recharge areas shall be permanently maintained in full working order by the owner.

## **9. PROCEDURES FOR ISSUANCE OF SPECIAL PERMIT**

9.1. The Special Permit Granting Authority (SPGA) under this [bylaw/ordinance] shall be the \_\_\_\_\_.<sup>17</sup> Such special permit shall be granted if the SPGA determines, in conjunction with the [Town/City] [Planning Board, Board of Health, Conservation Commission, Engineer and/or Department of Public Works and Water Department/Water District] that the intent of this [bylaw/ordinance], as well as its specific criteria, are met. The SPGA shall not grant a special permit under this section unless the petitioner's application materials include, in the SPGA's opinion, sufficiently detailed, definite, and credible information to support positive findings in relation to the standards given in this section. The SPGA shall document the basis for any departures from the recommendations of the other [Town/City] boards, departments or commissions in its decision.

9.2. Upon receipt of the special permit application, the SPGA shall transmit one copy to the [Town/City] [Planning Board, Board of Health, Conservation Commission, Engineer and/or Department of Public Works, and Water Department/Water District]. Failure to respond in writing within 35 days of receipt shall indicate approval, or no desire to comment. The necessary number of copies of the application shall be furnished by the applicant.

9.3 The SPGA may grant the required special permit only upon finding that the proposed use meets the following standards, those specified in Section 7 of this [bylaw/ordinance], and any regulations or guidelines adopted by the SPGA. The proposed use must:

- a. in no way, during construction or thereafter, adversely affect the existing or potential quality of quantity of water that is available in the Groundwater Protection District; and
- b. be designed to avoid substantial disturbance of the soils, topography, drainage, vegetation, and other water-related natural characteristics of the site to be developed.
- c. The SPGA may adopt regulations to govern design features of projects. Such regulations shall be consistent with subdivision regulations adopted by the [Town/City] of \_\_\_\_\_.<sup>18</sup>
- d. The applicant shall file \_\_\_\_ copies of a site plan and attachments. The site plan shall be drawn at a proper scale as determined by the SPGA and be stamped by a professional

engineer. All additional submittals shall be prepared by qualified professionals. The site plan and its attachments shall at a minimum include the following information where pertinent:

1. a complete list of chemicals, pesticides, herbicides, fertilizers, fuels, and other potentially hazardous materials to be used or stored on the premises in quantities greater than those associated with normal household use;
2. for those activities using or storing such hazardous materials, a hazardous materials management plan shall be prepared and filed with the [Fire Chief and Board of Health]. The plan shall include:
  - i. provisions to protect against the discharge of hazardous materials or wastes to the environment due to spillage, accidental damage, corrosion, leakage, or vandalism, including spill containment and clean-up procedures;
  - ii. provisions for indoor, secured storage of hazardous materials and wastes with impervious floor surfaces;
  - iii. evidence of compliance with the Massachusetts Hazardous Waste Regulations 310 CMR 30.00;<sup>19</sup> and
  - iv. proposed down-gradient location(s) for groundwater monitoring well(s), should the SPGA deem the activity a potential groundwater threat.
- e. The SPGA shall hold a hearing, in conformity with the provision of M.G.L. c.40A s. 9, within 65 days after the filing of the application.
- f. Notice of the public hearing shall be given by publication and posting and by first-class mailings to "parties of interest" as defined in M.G.L. c.40A s.11. The decision of the SPGA and any extension, modification, or renewal thereof shall be filed with the SPGA and [Town/City] Clerk within 90 days following the closing of the public hearing. Failure of the SPGA to act within 90 days shall be deemed as a granting of the permit.

## **10. ENFORCEMENT**

10.1 Written notice of any violations of this [bylaw/ordinance] shall be given by the [Zoning Enforcement Officer/Building Inspector] to the responsible person as soon as possible after detection of a violation or a continuing violation. Notice to the assessed owner of the property shall be deemed notice to the responsible person. Such notice shall specify the requirement or restriction violated and the nature of the violation, and may also identify the actions necessary to remove or remedy the violations and preventive measures required for avoiding future violations and a schedule of compliance.

10.2 A copy of such notice shall be submitted to the [Town/City] [Planning Board, Board of Health, Conservation Commission, Engineer and/or Department of Public Works, and Water Department/District]. The cost of containment, clean-up, or other action of compliance shall be borne by the owner and operator of the premises.

## **11. SEVERABILITY**

11.1 A determination that any portion or provision of this overlay protection district is invalid shall not invalidate any other portion or provision thereof, nor shall it invalidate any special permit previously issued thereunder.

## **FOOTNOTES**

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<sup>1</sup> Municipalities can choose other district names, such as Aquifer Protection District, Water Supply Protection District, Wellhead Protection District etc. DEP does not recommend naming the Protection District ‘Zones’ or the ‘Zone II’; *unless* the municipality is adopting the DEP approved Zone II delineation as their protection district. Protection districts may be larger, but not smaller than the Zone II.

<sup>2</sup> Potential Sources of Drinking Water are defined by the MA Contingency Plan, 310 CMR 40.00 as: *ground water located 500 feet or more from a public water supply distribution pipeline, unless the groundwater is located under a parcel of land or a facility where any portion of that parcel of land or facility is located less than 500 feet from a public water supply distribution pipeline; or within an area designated by a municipality specifically for the protection of groundwater quality to ensure its availability for use as a source of potable water supply. Designation shall be in the form of a municipal ordinance/bylaw (e.g., an Aquifer Protection District); or an inter-municipal agreement approved by the municipality; or an executed inter-governmental contract for the purchase or sale of drinking water; or within a Potentially Productive Aquifer that has not been excluded as a Non-Potential Drinking Water Source Area.*

<sup>3</sup> DEP Wellhead Protection Regulations do not prohibit Liquefied Petroleum Gas in the Zone II. Installation and storage of LPG is governed strictly by 527 CMR 6.00.

<sup>4</sup> Designated recharge areas are defined by DEP as:

**Zone I:** The 100 to 400 foot protective radius around a public water system well or well-field (which must be owned by the water supplier or controlled through a conservation restriction).

**Zone II:** The area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated as defined in 310 CMR 22.00.

**Zone III:** The land area beyond the area of Zone II from which surface water and groundwater drain into Zone II.

The Zone II **must** be protected by municipal zoning and non-zoning controls that meet 310 CMR 22.21(2). If the Zone I is not owned or controlled by the public water supplier, the Zone I must also be protected with local controls meeting 310 CMR 22.21(2). If DEP waives the Zone II delineation requirement; then the Zone III must also be protected with local controls meeting 310 CMR 22.21(2).

<sup>5</sup> Include the name and date of the Protection District Map in the bylaw/ordinance.

<sup>6</sup> If the Protection District boundary coincides with the Zone II boundary, DEP approval is required to revise the Zone II delineation. DEP Approval must be obtained prior to amending the Protection District boundary.

<sup>7</sup> Determine whether to include or exclude partial lots and parcels located in the Protection District. Choose one of the [bracketed] approaches and delete the other.

<sup>8</sup> Federal, State, and County entities are not subject to zoning controls. Such entities however may not engage in activities that will degrade public drinking water quality. For inquiries concerning activities being conducted by these entities in Zone II areas, contact your DEP Regional office.

<sup>9</sup> This prohibition includes most vehicular maintenance facilities, dry cleaners, print and photo processing operations as well as many industrial uses.

<sup>10</sup> SIC Codes are established by the US Office of Management and Budget and are available online.

<sup>11</sup> Replacement of existing tanks/systems consistent with state requirements is allowed in a Zone II. Above ground home heating oil tanks are not required to have a containment system, they may be placed in a basement if on an impervious surface.



<sup>12</sup> Under the Sludge and Septage Regulations, 310 CMR 32.30 and 31, storage within a 2,500' radius of existing or potential public water supply wells is prohibited, *unless* stored in a watertight container or a hydro-geological study determines that storage will not result in contamination. Long-term storage requires written approval from the municipality's Board of Health.

<sup>13</sup> Uncovered salt storage in water supply areas is also prohibited by M.G.L. c.85 s.7A

<sup>14</sup> For the purposes of this bylaw/ordinance, 'utility works' includes stormwater detention/retention systems and other measures designed to mitigate stormwater impacts on drinking water supplies. Communities may want to include a definition for 'utility works' in the bylaw/ordinance.

<sup>15</sup> Sanitary waste water (septic system density) is governed by Title 5, 310 CMR 15.00, and implemented by Boards of Health. Pursuant to Title 5, 310 CMR 15.211(2): *"No system shall be constructed within a Zone I of a public water supply well or wellfield. No system shall be upgraded or expanded within a Zone I of a public water supply or wellfield unless a variance is granted pursuant to 310 CMR 15.410 through 15.415."*

<sup>16</sup> A municipality may want to identify additional land uses/activities of concern, and include additional performance standards. If there are many industrial/commercial uses in a Protection District, and their expansion is probable, specific conditions for expanding and altering their operations should be included

<sup>17</sup> M.G.L c.40A s.9 specifies the SPGA must be the Board of Selectmen, Board of Appeals, or Planning Board.

Special permit applications should be reviewed by all boards, departments and commissions having an interest or responsibility for review or approval of actions taken by the applicant.

This section identifies local entities that typically participate in the special permit application review process. Determine the

participating entities for your community, including any not listed in this section (such as a community development department, hazardous materials coordinator etc).

<sup>18</sup> The SPGA is encouraged to adopt regulations to administer the (bylaw/ordinance). The SPGA should consider including performance and/or design standards in such regulations.

<sup>19</sup> The Massachusetts Hazardous Waste Regulations, 310 CMR 30.00, do not apply to hazardous materials.

# MA Wellhead Protection Regulations 310 CMR 22.21(2)<sup>1</sup>

[with selected excerpts from the Source Approval Regulations ]

## **310 CMR 22.21(1) Source Approval**

- (c) (4). No public water supply well or wellfield designed to pump 100,000 gallons per day or more shall be constructed, expanded or replaced unless the Department finds in writing that the proponent has drafted wellhead protection zoning or non-zoning controls that prohibit siting within the Zone II the land uses set forth in 310 CMR 22.21(2)(a) and 310 CMR 22.21(2)(b) unless designed in accordance with the performance standards specified therein.
- (d) (2). No public water supply well or wellfield designed to pump 100,000 gallons per day or more shall be placed on-line unless the cities and towns in which any part of the *Zone II of the proposed well or wellfield is located have wellhead protection zoning or non-zoning controls in effect that prohibit siting within the Zone II the land uses set forth in 310 CMR 22.21(2)(a) and 310 CMR 22.21(2)(b)* unless designed in accordance with the performance standards specified therein. If the public water system is owned or controlled by an entity other than a municipality, the proponent must demonstrate to the Department's satisfaction that it has used its *best efforts* to have those cities and towns in which the Zone II is located establish such zoning or non-zoning controls.
- (e) Notwithstanding 310 CMR 22.21(d)(2), no public water supply well or wellfield designed to pump 100,000 gallons per day or more that will be used in a public water system owned or operated by a municipality, and is located within that municipality, shall be placed on-line *unless the municipality has wellhead protection zoning or non-zoning controls in effect that prohibit siting within the Zone II the land uses set forth in 310 CMR 22.21(2)(a) and 310 CMR 22.21(2)(b)* unless designed in accordance with the performance standards specified therein. If the Zone II of a municipal public water system extends into another municipality, the water supplier must also demonstrate to the Department's satisfaction that it has used its *best efforts* to have all cities and towns into which the Zone II extends establish such zoning or non-zoning controls.

Requirement for drafting  
municipal wellhead protection  
controls

Best Effort Requirement for non-  
municipal public water systems

Best Effort Requirement for Zone  
II located in another municipality

## **310 CMR 22.21(2) Wellhead Protection**

- (a) Wellhead protection zoning and non-zoning controls submitted to the Department in accordance with 310 CMR 22.21(1), shall collectively prohibit the siting of the following land uses within the Zone II, or Zone III if the criteria of 310 CMR 22.21(1)(f) have been met, of the proposed well or wellfield, whichever is applicable:
1. landfills and open dumps, as defined in 310 CMR 19.006;
  2. landfills receiving only wastewater residuals and/or septage (wastewater residuals "monofills")

Prohibitions 310 CMR 22.21(2)(a)(1) - (b)(7),  
must be adopted prior to the operation of a new  
well. For existing permitted wells, refer to the  
due date in your water withdrawal permit

<sup>1</sup> as amended through 2001

3. automobile graveyards and junkyards, as defined in MGL. c. 140B, §1;
4. stockpiling and disposal of snow or ice removed from highways and streets located outside of Zone II that contains sodium chloride, chemically treated abrasives or other chemicals used for snow and ice removal;
5. petroleum, fuel oil and heating oil bulk stations and terminals, including, but not limited to, those listed under Standard Industrial Classification (SIC) Codes 5171 and 5983, not including liquefied petroleum gas. SIC Codes are established by the U.S Office of Management and Budget and may be determined by referring to the publication, Standard Industrial Classification Manual and any subsequent amendments thereto;
6. treatment or disposal works subject to 314 CMR 5.00, for wastewater other than sanitary sewage. This prohibition includes, but is not limited to, treatment or disposal works related to activities under the Standard Industrial Classification (SIC) Codes set forth in 310 CMR 15.004(6) (Title 5), except the following:
  - a. the replacement or repair of an existing system(s) that will not result in a design capacity greater than the design capacity of the existing system(s);
  - b. treatment works approved by the Department designed for the treatment of contaminated ground or surface waters and operated in compliance with 314 CMR 5.05(3) or 5.05(13); and
  - c. publicly owned treatment works, or POTW;
7. facilities that generate, treat, store or dispose of hazardous waste that are subject to MGL. c. 21C and 310 CMR 30.000, except for the following:
  - a. very small quantity generators, as defined by 310 CMR 30.00;
  - b. household hazardous waste collection centers or events operated pursuant to 310 CMR 30.390;
  - c. waste oil retention facilities required by MGL. c. 21, § 52A; and
  - d. treatment works approved by the Department designed in accordance with 314 CMR 5.00 for the treatment of contaminated ground or surface waters
8. any floor drainage systems in existing facilities, in industrial or commercial hazardous material and/or hazardous waste process areas or storage areas, which discharge to the ground without a DEP permit or authorization. Any existing facility with such a drainage system shall be required to either seal the floor drain (in accordance with the state plumbing code, 248 CMR 10.00<sup>2</sup>), connect the drain to a municipal sewer system (with all appropriate permits and pre-treatment), or connect the drain to a holding tank meeting the requirements of all appropriate DEP regulations and policies.
 

**The floor drain prohibition must be a non-zoning control.**

  - (b) Wellhead protection zoning and non-zoning controls submitted to the Department in accordance with 310 CMR 22.21(1), shall collectively prohibit the siting of the following land uses

VSQGs produce less than 220 pounds and less than 27 gallons of hazardous waste per month

<sup>2</sup> Formerly 248 CMR 2.00. Amended 2005.

within the Zone II, or Zone III if the criteria of 310 CMR 22.21(1)(f) have been met, of the proposed well or wellfield, whichever is applicable, unless designed in accordance with the specified performance standards:

1. storage of sludge and septage, unless such storage is in compliance with 310 CMR 32.30 and 310 CMR 32.31;
2. storage of sodium chloride, chemically treated abrasives or other chemicals used for the removal of ice and snow on roads, unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate;
3. storage of commercial fertilizers; unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate;
4. storage of animal manures, unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate.
5. storage of liquid hazardous materials and/or liquid petroleum products unless such storage is:
  - a. above ground level, and
  - b. on an impervious surface, and
  - c. either in container(s) or above ground tank(s) within a building, or outdoors in covered container(s) or above ground tank(s) in an area that has a containment system designed and operated to hold either 10% of the total possible storage capacity of all containers, or 110% of the largest container's storage capacity, whichever is greater;
6. the removal of soil, loam, sand, gravel or any other mineral substances within four feet of the historical high groundwater table elevation (as determined from monitoring wells and historical water table fluctuation data compiled by the United States Geological Survey), unless the substances removed are re-deposited within 45 days of removal on site to achieve a final grading greater than four feet above the historical high water mark, and except for excavations for the construction of building foundations or the installation of utility works;
7. land uses that result in the rendering impervious any lot or parcel more than 15% or 2500 square feet, whichever is greater, unless a system for artificial recharge of precipitation is provided that will not result in the degradation of groundwater quality.